

Claims:

1. For a database management system to be operatively coupled to a data processing system, a method for optimizing compression of a workload comprising a plurality of queries, the method comprising:

5 estimating a cost to execute the queries;

selecting a sub-set of queries from the workload according to a threshold level, the threshold level being a function of the estimated cost to execute the queries; and

compressing the selected sub-set of queries.

2. The method of claim 1 the step of selecting includes selecting from the queries in
10 decreasing estimated cost of execution rank order such that an aggregate estimated cost of execution for the selected queries is less than equal to the threshold.

3. The method of claim 1 wherein the cost of execution is a function of a parameter selected from the group consisting of estimated execution time of a query, amount of computer memory required for execution of a query, amount of I/O usage required for execution of a
15 query, amount of CPU utilization required for execution of a query, and throughput contribution required for execution of a query and combination thereof.

4. The method of claim 3 wherein the cost of execution is a function of any of:

 a frequency/weighting component associated with each query;

 an estimated time of execution for each query;

20 an amount of computer memory required for execution of a query;

 an amount of I/O usage required for execution of a query;

 an amount of CPU utilization required for execution of a query; and,

 an amount of throughput contribution required for execution of a query.

5. The method of claim 1 wherein the threshold is derived from any of:

- a percentage of a total execution time of the workload;
- an allotted execution time for the workload;
- a determination made by applying successive approximations techniques; and
- a determination made when an allotted threshold selection time has been reached.

5 6. The method of claim 1 wherein the step of selecting further comprising sub-dividing the plurality of queries into groups of queries based upon query types wherein the threshold applied to a group of queries is a percentage of a total estimated cost of execution for the group of queries.

10 7. The method of claim 6 wherein the threshold applied to a group of queries is derived from an allotted execution time for the group of queries.

8. For a database management system to be operatively coupled to a data processing system, a computer program product comprising a computer readable medium tangibly embodying computer executable code for optimizing compression of a workload comprising a plurality of queries, the computer programmed product further comprising:

15 code for estimating a cost to execute the queries;

 code for selecting a sub-set of queries from the workload according to a threshold level, the threshold level being a function of the estimated cost to execute the queries;

 and

 code for compressing the selected sub-set of queries.

20 9. The computer programmed product of claim 8 wherein the code for selecting includes selecting from the queries in decreasing estimated cost of execution rank order such that an aggregate estimated cost of execution for the selected queries is less than equal to the threshold.

25 10. The computer programmed product of claim 8 wherein the cost of execution is a function of any of:

- a frequency/weighting component associated with each query;
- an estimated time of execution for each query;
- an amount of computer memory required for execution of a query;
- an amount of I/O usage required for execution of a query;

5 an amount of CPU utilization required for execution of a query; and,

- an amount of throughput contribution required for execution of a query.

11. The computer programmed product of claim 1 wherein the threshold is derived from any of:

- a percentage of a total execution time of the workload;

10 an allotted execution time for the workload;

- a determination made by applying successive approximations techniques; and
- a determination made when an allotted threshold selection time has been reached.

12. The computer programmed product of claim 8 wherein the step of selecting further comprising sub-dividing the plurality of queries into groups of queries based upon query types

15 wherein the threshold applied to a group of queries is a percentage of a total estimated cost of execution for the group of queries.

13. The computer programmed product of claim 12 wherein the threshold applied to a group of queries is derived from an allotted execution time for the group of queries.

14. For a database management system to be operatively coupled to a data processing system,

20 a workload compression system for optimizing compression of a workload comprising a plurality of queries, the workload compression system comprising:

- means for estimating a cost to execute the queries;

- means for selecting a sub-set of queries from the workload according to a threshold level, the threshold level being a function of an estimated cost to execute the queries;

and

means for compressing the selected sub-set of queries.

15. The workload compression system of claim 14 wherein the means for selecting includes selecting from the queries in decreasing estimated cost of execution rank order such that an aggregate estimated cost of execution for the selected queries is less than equal to the threshold.
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16. The workload compression system of claim 14 wherein the cost of execution is a function of any of:
 - a frequency/weighting component associated with each query;
 - 10 an estimated time of execution for each query;
 - an amount of computer memory required for execution of a query;
 - an amount of I/O usage required for execution of a query;
 - an amount of CPU utilization required for execution of a query; and,
 - an amount of throughput contribution required for execution of a query.
- 15 17. The workload compression system of claim 14 wherein the threshold is derived from any of:
 - a percentage of a total execution time of the workload;
 - an allotted execution time for the workload;
 - 20 a determination made by applying successive approximations techniques; and
 - a determination made when an allotted threshold selection time has been reached.
18. The workload compression system of claim 14 wherein the step of selecting further comprising sub-dividing the plurality of queries into groups of queries based upon query types wherein the threshold applied to a group of queries is a percentage of a total estimated cost of execution for the group of queries.

19. The workload compression system of claim 18 wherein the threshold applied to a group of queries is derived from an allotted execution time for the group of queries.